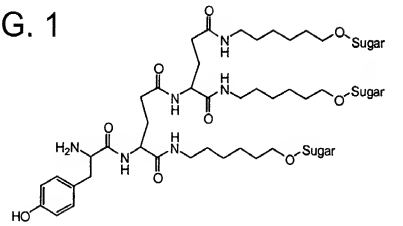
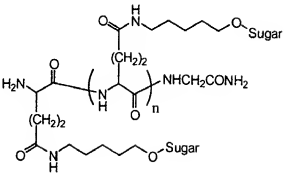
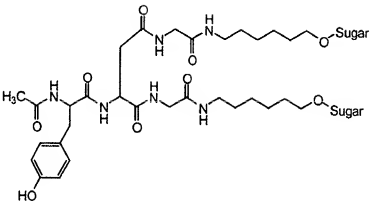
FIG. 1



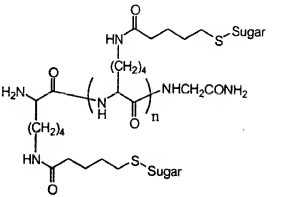
1



2



3

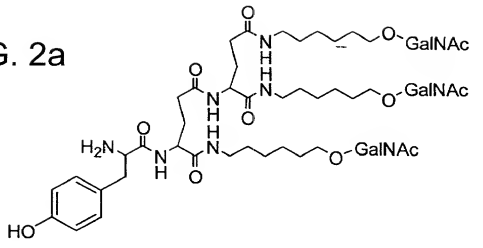


4

[a]sugar may be, but is not restricted to, any of the following sugars: glucose, N-acetylglucosamine, galactose, N-acetylgalactose, mannose, fucose.

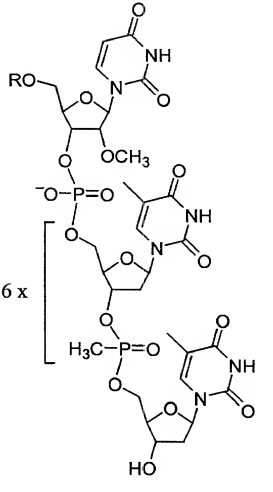
[b]Folic acid may be used in place of the sugar residues

FIG. 2a



5

FIG. 2b



6a R = H

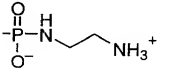
6b R = 

FIG. 2c

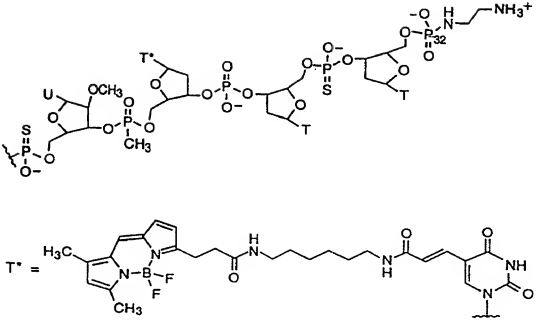
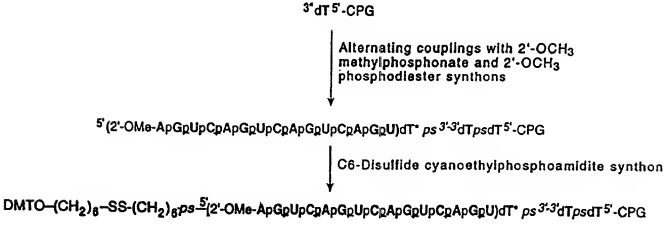


FIG. 2d


3'dT5'-CPG
Alternating couplings with 2'-OCH3 methylphosphonate and 2'-OCH3 phosphodiester synthons
5'(2'-OMe-ApGpUpCpApGpUpCpApGpUpCpApGpU)dT* ps3'-3'dTpsdT5'-CPG
C6-Disulfide cyanoethylphosphoamidite synthon
DMTO–(CH2)6–SS-(CH2)6ps-5'[2'-OMe-ApGpUpCpApGpUpCpApGpUpCpApGpU)dT* ps3'-3'dTpsdT5'-CPG

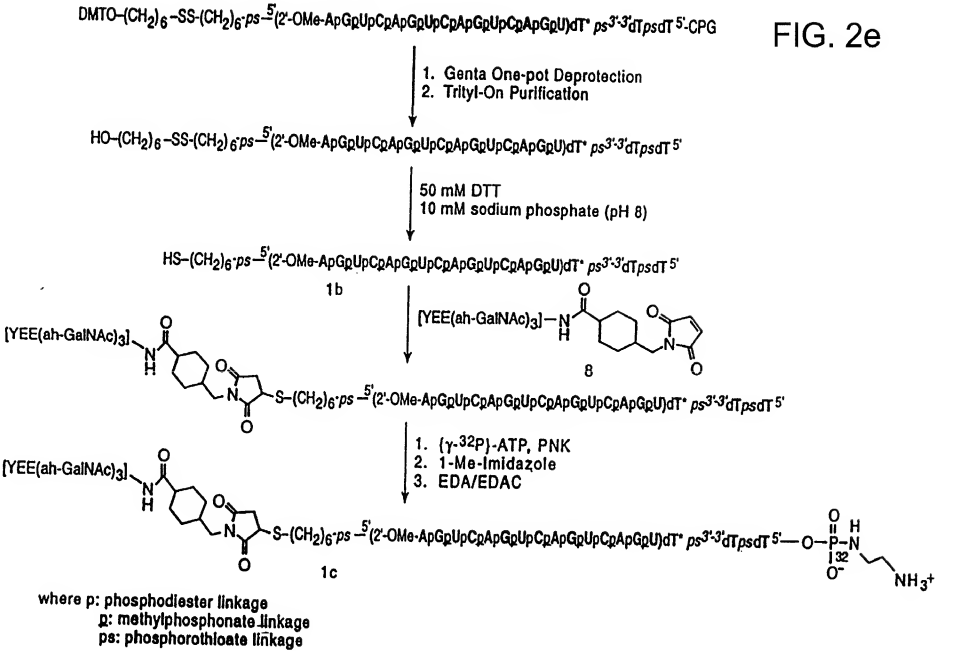


FIG. 2e

where p: phosphodiester linkage
p: methylphosphonate linkage
ps: phosphorothioate linkage

FIG. 3

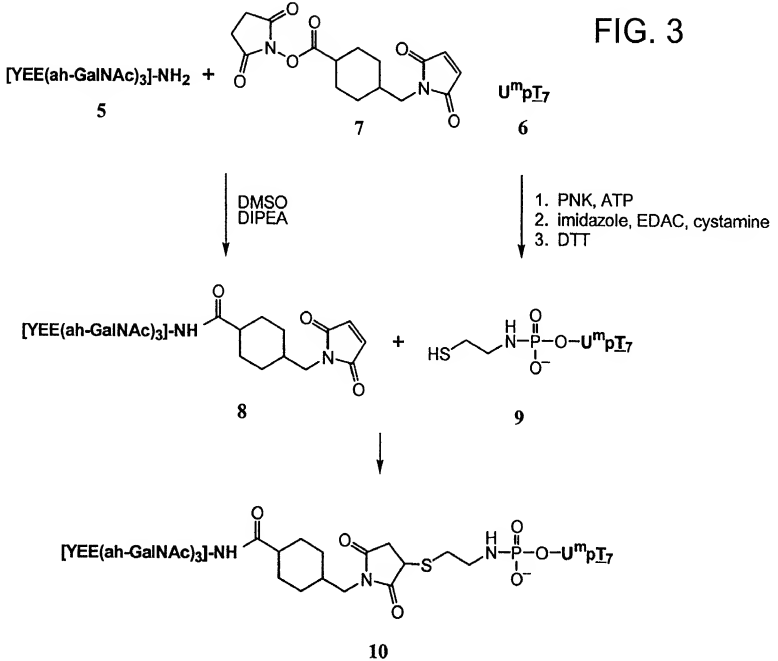


FIG. 4

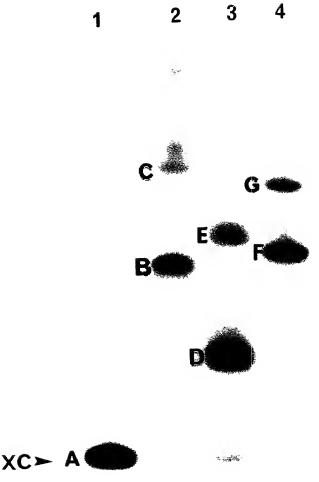
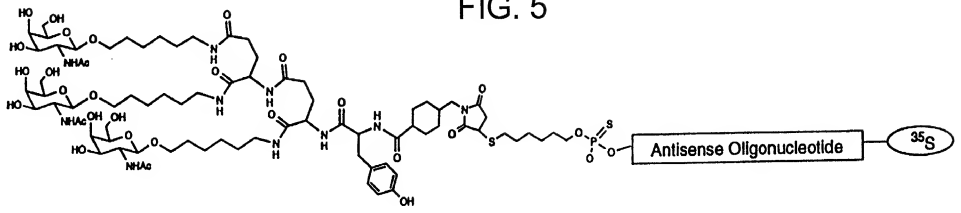


FIG. 5



Antisense Oligonucleotide where is either	GTT CTC CAT GTT CAG	NG1	Surface Antigen
	TTT ATA AGG GTC GAT GTC CAT	NG2	Core
	AAA GCC ACC CAA GGC A	NG3	Encapsidation
	TGA GCT ATG CAC ATT CAG ATT T	NG4	Random

^{35}S where is $-\{[^{35}S]\text{-ps*A}\}_{n\ n=1..3}$

FIG. 6

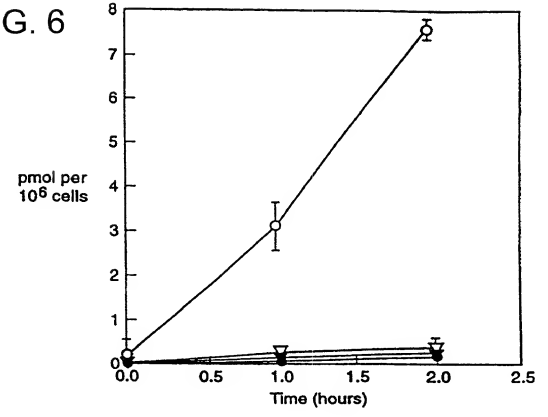

pmol per
10^6 cells
0
1
2
3
4
5
6
7
8
0.0
0.5
1.0
1.5
2.0
2.5
Time (hours)

FIG. 7

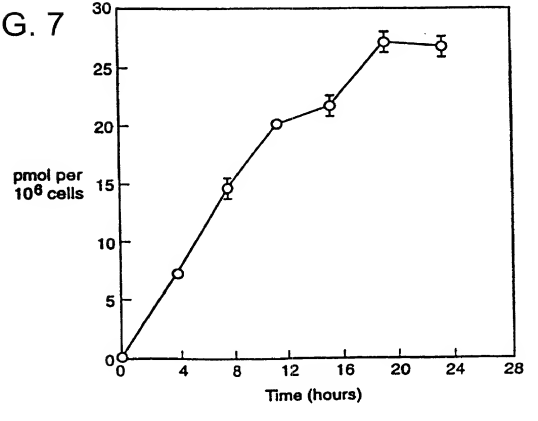
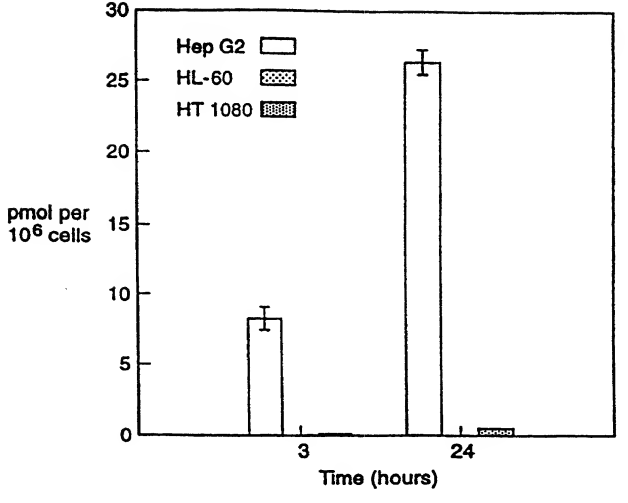

pmol per
10^6 cells
0
5
10
15
20
25
30
0
4
8
12
16
20
24
28
Time (hours)

FIG. 8


30
25
20
15
10
5
0
pmol per
10^6 cells
Hep G2
HL-60
HT 1080
3
24
Time (hours)

NUCLEASE RESISTANT NEOGLYCOCONJUGATE UPTAKE BY HEP G2 CELLS

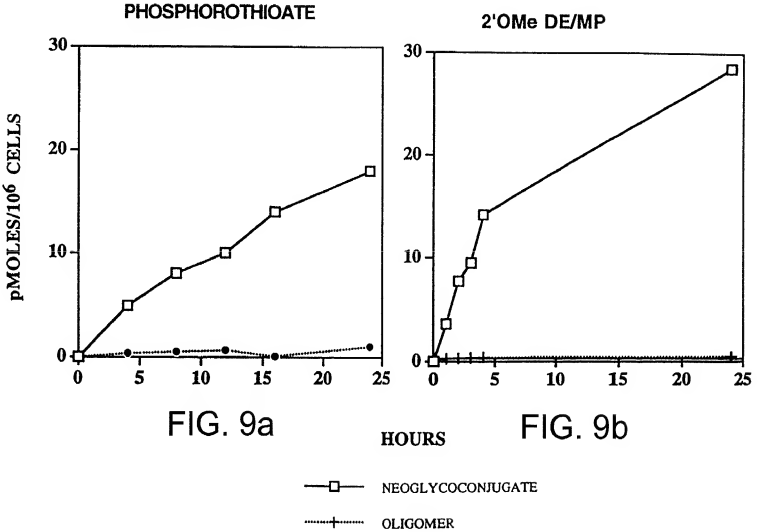


FIG. 9a

FIG. 9b

FIG. 10

NUCLEASE RESISTANT NEOGLYCONJUGATE UPTAKE BY HEP G2 2.2.15 CELLS

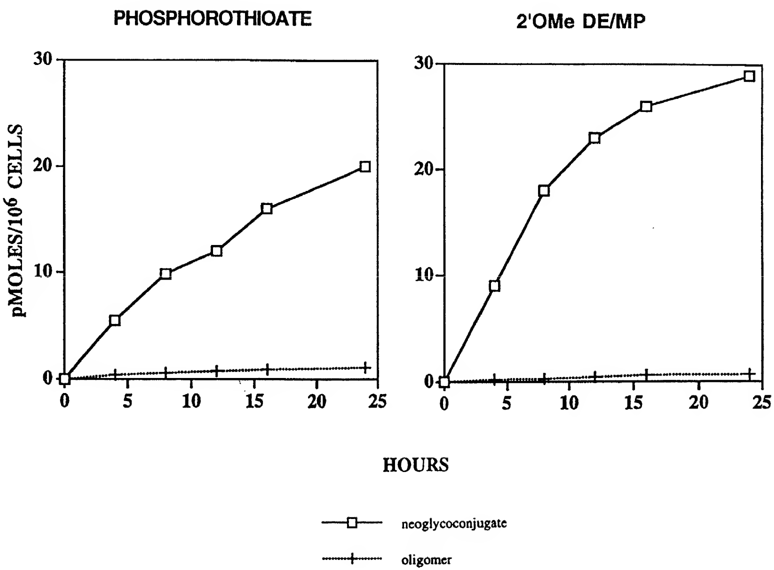
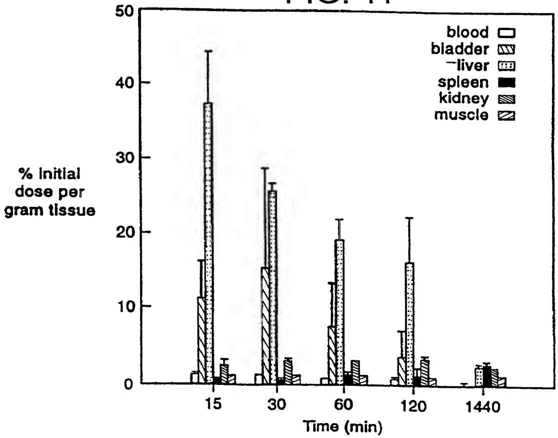
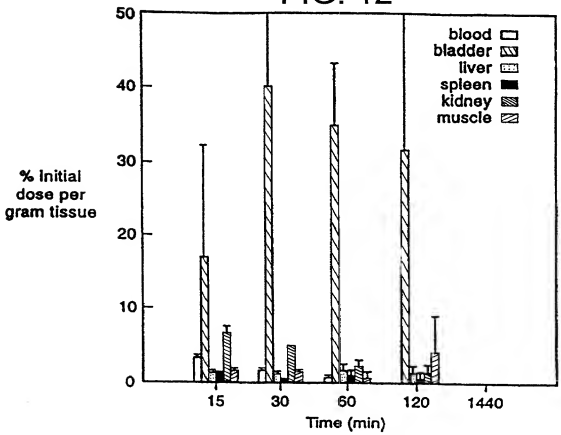


FIG. 11



blood
bladder
liver
spleen
kidney
muscle
% initial dose per gram tissue
50
40
30
20
10
0
15
30
60
120
1440
Time (min)

FIG. 12



blood
bladder
liver
spleen
kidney
muscle
% initial dose per gram tissue
50
40
30
20
10
0
15
30
60
120
1440
Time (min)

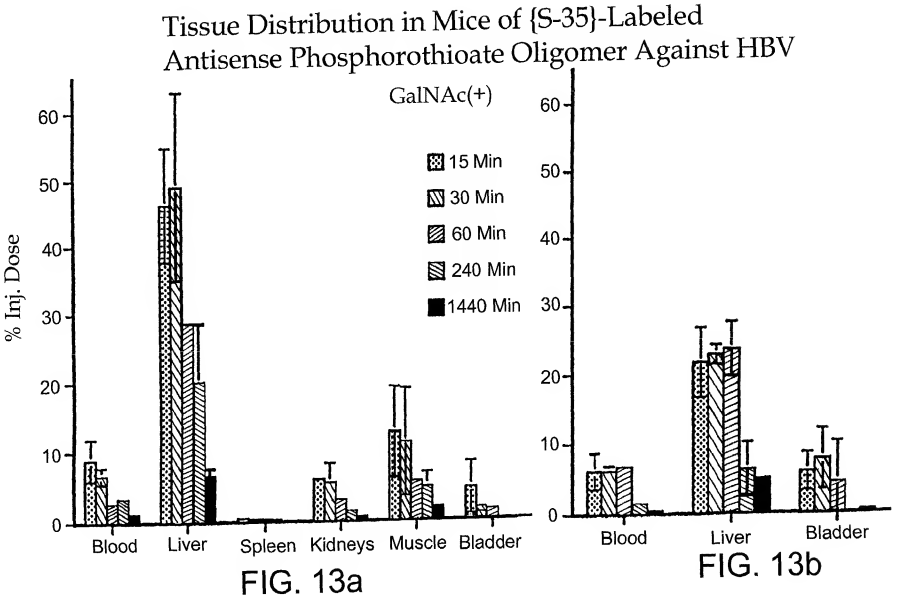


FIG. 13a

FIG. 13b

FIG. 14

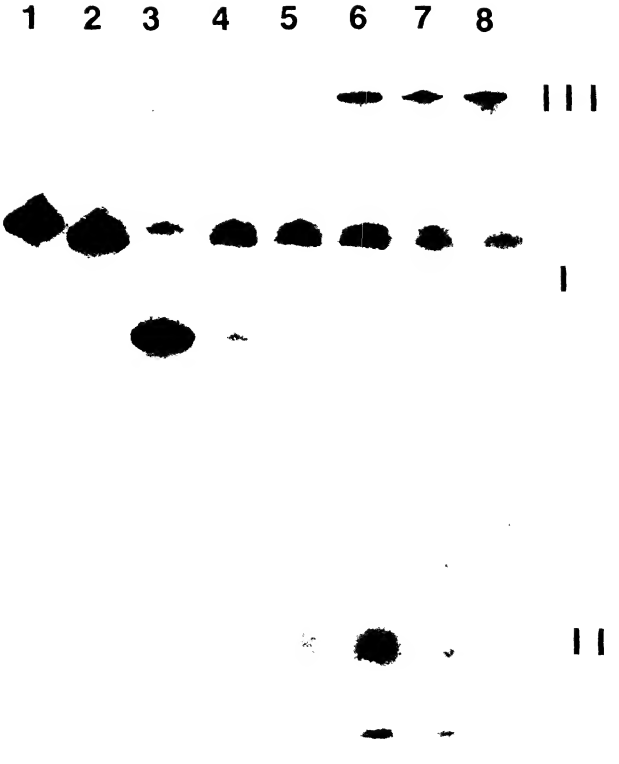


FIG. 15

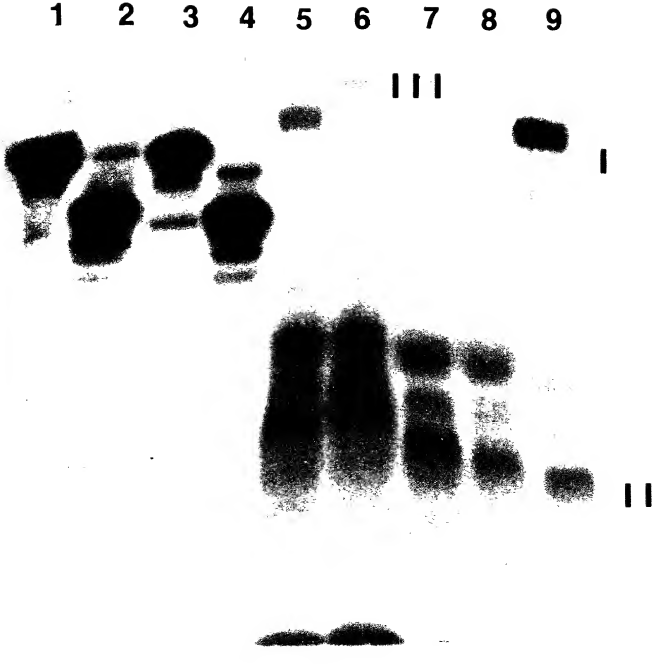
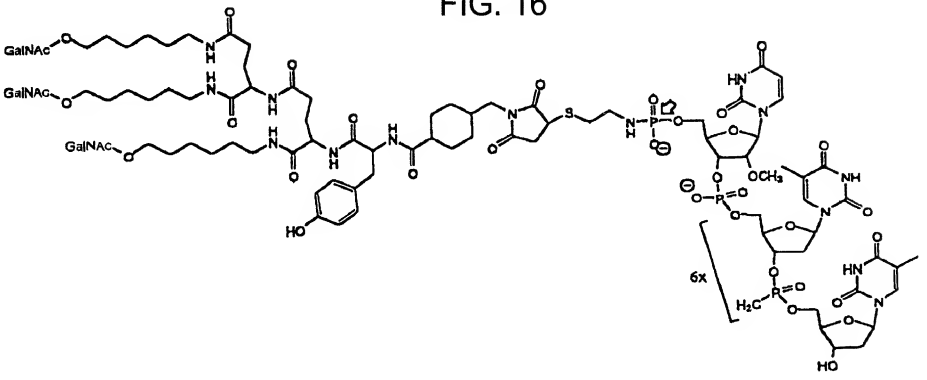


FIG. 16



10: YEE(ahGalNAc)$_3$-SMCC-AET-pU^{m}pT$_7$

11: YEE(ah)$_3$-SMCC-AET-pU^{m}pT$_7$

12: [Y]-SMCC-AET-pU^{m}pT$_7$

13: pU^{m}pT$_7$

14: YEE(ahGalNAc)$_2$-SMCC-AET-pU^{m}pT$_7$

15: YEE(ahGalNAc)$_3$-SMCC-AET-pU^m

FIG. 17

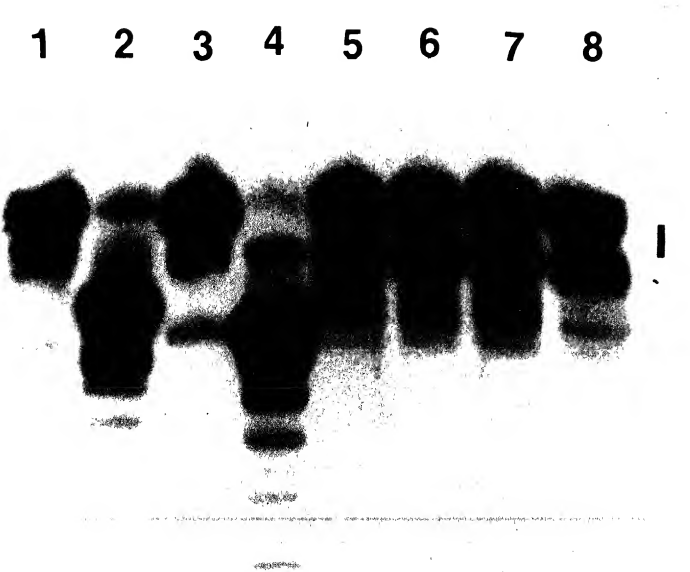


FIG. 18

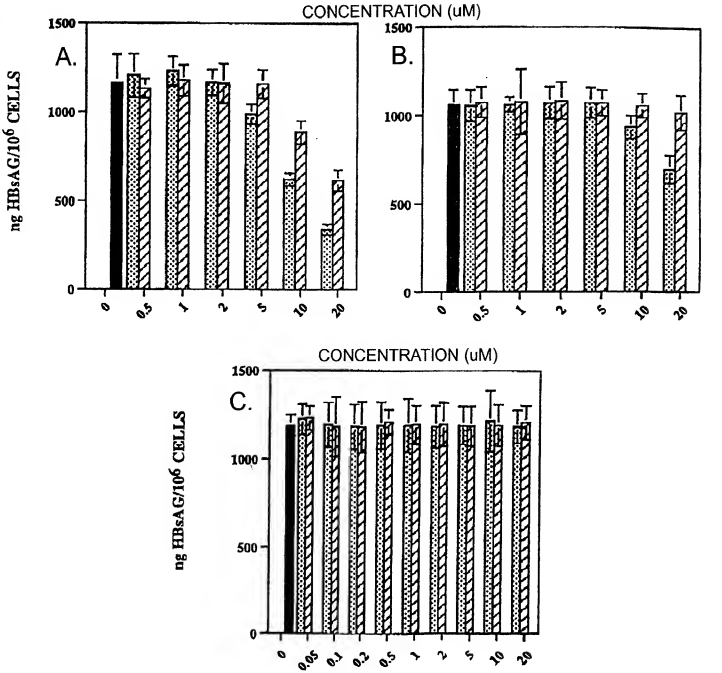

CONCENTRATION (uM)
A.
B.
C.
ng HBsAG/10^6 CELLS
1500
1000
500
0
0
0.5
1
2
5
10
20
0.05
0.1
0.2

FIG. 19

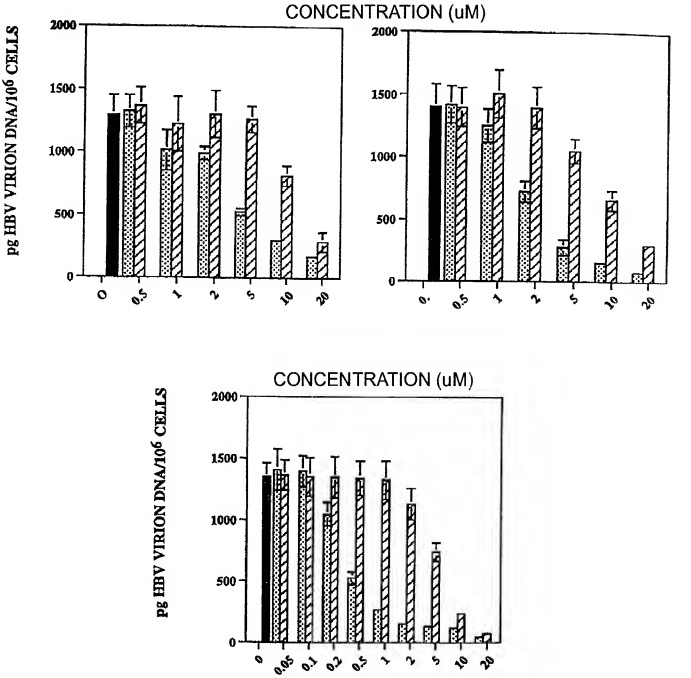

CONCENTRATION (uM)
pg HBV VIRION DNA/10^6 CELLS
2000
1500
1000
500
0
0
0.5
1
2
5
10
20
CONCENTRATION (uM)
pg HBV VIRION DNA/10^6 CELLS
0
0.05
0.1
0.2
0.5
1
2
5
10
20

FIG. 20